

METRIC CONVERSION LAB

Name _____

Date _____

READ INSTRUCTIONS FIRST READ INSTRUCTIONS FIRST READ INSTRUCTIONS FIRST

Overview:

For this lab we will examine several metric relationships. The first relationship is that which exists between mL and cm^3 , and the second is between the mass, volume and density of water. Complete the information in the data table, answer the Analysis Questions, and make sure you type a 1 page (maximum) procedure which details how you went about the lab. In the procedure avoid pronouns like "I" and "we." **INCLUDE UNITS FOR EVERYTHING.** Units for everything.....Initial Here _____ and get your supplies from the counter: Rectangular box, ruler and graduated cylinder.

Data Table: VOLUME

Object	A. Length of box (cm)	B. Width of box (cm)	C. Height of box (cm)	D. Metric volume of box (lxwxh) in (cm^3)	E. Liquid Volume of box (mL)	F. (Box D / Box E) (divided by...)

Data Table: MASS

Object	G. Mass of empty box (g)	H. Mass of box filled to line (g)	I. Mass of full box – empty box (g)	J. Liquid volume of box (Box E from above) (mL)	L. Box I / Box J mass / volume (UNITS)

Data Table: Density of Mystery Cube (You will need to get this from the teacher)

Description of Object	M. Mass of object (g)	N. Liquid or Measured Volume of Object (UNITS)	O. (Box M/ Box N) UNITS	P. Identify object by actual density (Teacher will have list)
				ID: Density:

Analysis Questions: (You can complete these on the back)

1. How did box D and E compare to each other numerically? Explain

2. Calculate the percent error using Box F as your measured value and the number 1.00 as your actual value since these two numbers should theoretically be the same.

$$\% \text{ error} = |(\text{Meas.} - \text{Act.}) / (\text{Act.})| \times 100$$

3. What are the correct units for Box L?

4. What characteristic of water are we measuring?

5. Calculate your % error for the Mystery Cube using Box P as your actual value:

6. What were 3 sources of error in this lab?

1.

2.

3.

7. How accurate were your measurements in this lab? Why and how do you know?

8. Complete a ½ - 1 page procedure for this lab due on Monday 9/8

Rubric for Procedure:

	5	3	1
Length	Between ½ – 1 page and typed	Between ½ – 1 page hand written	Less than ½ page
Content	Procedure steps/narrative are easy to follow, clear and detailed.	Steps are understandable with some detail.	Steps are hard to follow and may not have much detail
Overall	Procedure adheres to guidelines and is well written	Partial adherence to guideline with some good content	Paper is written with less effort than required.